IN THE CLAIMS

1. (Currently Amended) Apparatus for matching the impedance of a pair of RF sources coupled to a single electrode to the impedance of a plasma in a semiconductor substrate processing chamber, comprising:

a first sub-circuit for matching the impedance of a first RF signal generated by a first RF source to the impedance of the plasma; and

a second sub-circuit for matching the impedance of a second RF signal generated by a second RF source to the impedance of the plasma, the second sub-circuit connected to the first sub-circuit to form a common output that is coupled to the electrode;

wherein the first and second sub-circuits each further comprise at least one non-variable set of series components and at least one variable shunt component connected to ground, and wherein a first match tune space defined by the first sub-circuit can be varied without ~~substantially~~ affecting a second match tune space defined by the second sub-circuit.

2. (Cancelled)

3. (Currently Amended) The apparatus of claim 1 [[2]], wherein a match tune space of the first and second RF sources is controllable by the shunt components.

4. (Currently Amended) The apparatus of claim 1 [[2]], wherein a match tune space of the first and second RF sources is controllable by varying at least one of a first and a second frequency of a signal respectively generated by the first and second RF sources.

5. (Original) The apparatus of claim 1, wherein the first and second RF sources each have a 50 Ohm output impedance.

6. (Original) The apparatus of claim 1, wherein the first and second sub-circuits are fixed in a predetermined configuration prior to performing a particular process in the processing chamber.

7. (Original) The apparatus of claim 1, wherein the impedance of the first and second RF sources may be matched to the impedance of the processing chamber during processing by at least one of:

varying at least one value of a component of the first and second sub-circuits during operation of the processing chamber; or

varying the frequency of at least one of the first and the second RF sources.

8. (Original) The apparatus of claim 1, further comprising:

an isolation sub-circuit for preventing power supplied from either of the first and second RF sources from being coupled to the other of the first and second RF sources.

9. (Currently Amended) Apparatus for matching the impedance of a pair of RF sources coupled to a single electrode to the impedance of a plasma in a semiconductor substrate processing chamber, comprising:

a first sub-circuit for coupling to a first RF source and having a first set of ~~fixed~~ non-variable series components and a first variable shunt to ground; and

a second sub-circuit for coupling to a second RF source and having a second set of ~~fixed~~ non-variable series components and a second variable shunt to ground, the second sub-circuit connected to the first sub-circuit to form a common output that is coupled to the electrode;

wherein a first match tune space defined by the first sub-circuit can be varied without ~~substantially~~ affecting a second match tune space defined by the second sub-circuit.

10. (Currently Amended) Apparatus for matching the impedance of a pair of RF sources coupled to a single electrode to the impedance of a plasma in a semiconductor substrate processing chamber, comprising:

a processing chamber comprising at least a first electrode;

a first RF source;

a second RF source; and

a dual frequency matching circuit, comprising:

a first sub-circuit coupled to the first RF source; and

a second sub-circuit coupled to the second RF source and connected to the first sub-circuit to form a common output that is coupled to the first electrode;

wherein the first and second sub-circuits each further comprise at least one non-variable set of series components and at least one variable shunt component connected to ground, and wherein a first match tune space defined by the first sub-circuit can be varied without ~~substantially~~ affecting a second match tune space defined by the second sub-circuit.

11. (Cancelled)

12. (Currently Amended) The apparatus of claim 10 [[11]], wherein a match tune space of the first and second RF sources is controllable by the shunt components.

13. (Currently Amended) The apparatus of claim 10 [[11]], wherein a match tune space of the first and second RF sources is controllable by varying at least one of a first and a second frequency of a signal respectively generated by the first and second RF sources.

14. (Original) The apparatus of claim 10, wherein the first and second sub-circuits are fixed in a predetermined configuration prior to performing a particular process in the processing chamber.

15. (Currently Amended) The apparatus of claim 10, wherein the impedance of the first and second RF sources ~~is~~ may be matched to the impedance of the processing chamber during processing by at least one of:

varying at least one value of a component of the first and second sub-circuits during operation of the processing chamber; or

varying the frequency of at least one of the first and the second RF sources.

16. (Original) The apparatus of claim 10, wherein the dual frequency matching circuit further comprises:

an isolation sub-circuit for preventing power supplied from either of the first and second RF sources from being coupled to the other of the first and second RF sources.

17. (Previously Presented) The apparatus of claim 1, wherein the first sub-circuit and the second sub-circuit are both configured to match the impedance of an RF signal having a frequency of between about 50 KHz and about 14.2 MHz.

18. (Previously Presented) The apparatus of claim 10, wherein the first RF source and the second RF source are both configured to provide an RF signal having a frequency of between about 50 KHz and about 14.2 MHz.

19. (Previously Presented) Apparatus for matching the impedance of a pair of RF sources coupled to a single electrode to the impedance of a plasma in a semiconductor substrate processing chamber, comprising:

a first sub-circuit for matching the impedance of a first RF signal having a frequency of between about 50 KHz and about 14.2 MHz generated by a first RF source to the impedance of the plasma; and

a second sub-circuit for matching the impedance of a second RF signal having a frequency of between about 50 KHz and about 14.2 MHz generated by a second RF source to the impedance of the plasma, the second sub-circuit connected to the first sub-circuit to form a common output that is coupled to the electrode.

20. (Currently Amended) The apparatus of claim 19, wherein the first and second sub-circuits each further comprise:

at least one ~~fixed~~ non-variable set of series components; and

at least one variable shunt component connected to ground.